UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,625	12/19/2005	Andrei Terechko	NL02 1505 US	8452

24738 7590 04/10/2007

PHILIPS ELECTRONICS NORTH AMERICA CORPORATION
INTELLECTUAL PROPERTY & STANDARDS
1109 MCKAY DRIVE, M/S-41SJ
SAN JOSE, CA 95131

EXAMINER	
CAO, CHUN	
ART UNIT	**PAPER NUMBER**
2115	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,625	TERECHKO ET AL.	
	Examiner	Art Unit	
	Chun Cao	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FINAL REJECTION

1. Claims 1-30 are presented for examination.

2. The text of those applicable section of Title 35, U.S. Code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 U.S.C. § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 18, such as the limitation "a hardware definition program defining the circuit arrangement of claim 1". The hardware definition program can not defining the hardware circuit arrangement of claim 1.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 18 is not limited to tangible embodiments. In view of Applicant's disclosure, specification page 9, line 28-page 10, line 1, the medium is not limited to

tangible embodiments, instead being defined as including both tangible embodiments and intangible embodiments such as transmissions and communication links (digital/analog) which are non-statutory subject matter, such as the digital and analog communication links are not tangible media. As such, the claim is not limited to statutory subject matter and is therefore non-statutory. The signal bearing tangible medium as described in the specification and in the claim includes communication links; and a computer program on communication links is not a proper manufacture under 35 U.S.C. 101. For purposes of examination it will be interpreted that the medium is statutory subject.

Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. If a computer program is not executed, then it is just a program pro se, therefore it does not fall within the statutory subject matter. As such patentability can not be accorded.

6. The 102(b) rejections are respectfully maintained that is applicable and reproduced infra for applicant's convenience.

7. Claims 1-9 and 11-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Houston (Houston), U.S. patent no. 6,307,281.

As per claim 1, Houston discloses a circuit arrangement [fig. 1], comprising a plurality of hardware resources [col. 3, lines 57-67; col. 4, lines 57-59], wherein each hardware resources has a power mode configurable between at least first and second power consumption states [col. 4, lines 60-62]; and a processor [12, fig. 1] coupled the plurality of hardware resources [16, fig. 1], the processor configured to process program

code that includes at least one power control instruction that includes an operand having power control information disposed therein, wherein the processor is configured to process the power control instruction by selectively setting power modes of at least two hardware resources among the plurality of hardware resources based upon the power control information disposed in the power control instruction, and wherein the processor is further configured to maintain the power modes of the power modes of the at least two hardware resources to that specified in the power control instruction while processing at least one subsequent instruction in the program code [col. 2, lines 49-61; col. 4, lines 4-62; col. 6, line 56-col. 7, line 7; col. 8, lines 24-46, 54-57; col. 9, lines 4-11].

As per claim 2, Houston discloses the power control instruction further includes an opcode that uniquely identifies the power control instruction [col. 8, lines 40-49].

As per claim 3, Houston discloses that a support register that stores power modes state information for the plurality of hardware resources; and enable logic coupled to the support register and configured to control the power modes of the plurality of hardware resources responsive to the power modes state information stored in the support register, wherein the processor is configured to selectively set the power modes of the at least two hardware resources by storing the power control information from the power control instruction in the support register [col. 2, lines 49-61; col. 4, lines 46-62; col. 6, line 56-col. 7, line 7; col. 8, lines 24-46, 54-57; col. 9, lines 4-11].

As per claim 4, Houston discloses that the support register comprises a power modes register [col. 8, lines 40-49].

As per claim 5, Houston discloses that the support register includes additional status information that is unrelated to power dissipation control [col. 10, lines 6-17].

As per claim 6, Houston discloses that a subset of the plurality of hardware resources comprises a plurality of banks of registers defining a register file, wherein the enable logic includes a plurality of enable circuits, each associated with a bank of register from the plurality of banks of registers, and each configured to selectively disable its associated bank of registers responsive to an enable signal wherein the enable logic is further configured to generated the enable signal for each bank of registers from the power modes state information stored in the support register [fig. 7; [col. 5, lines 21-30, 50-67; col. 6, line 56-col. 7, line 7; col. 8, lines 24-46; col. 9, lines 4-11].

As per claim 7, Houston discloses that each bank of registers includes at least one clock input, address input and data input, and wherein the enable circuit for each bank of registers is configured to selectively gate off the clock, address and data inputs for its associated bank of registers in response to the enable signal provided thereto [figures 6, 7, 9; col. 5, lines 21-30, 50-67; col. 6, line 56-col. 7, line 7; col. 8, lines 24-46; col. 9, lines 4-11].

As per claim 8, Houston discloses that each hardware resource is selected from the group consisting of a register file, a register bank, a register, a cache, a bus interface unit, a bus, a functional unit, a functional block and an instruction decoder [col. 5, line 21-col. 6, line 20].

As per claim 9, Houston discloses that the processor is configured to process explicitly parallel instructions, and wherein the power control instruction comprise an operation among a plurality of operations in an explicitly parallel instruction [col. 4, lines 1-6; col. 6, lines 1-9].

As per claim 11, Houston discloses a superscalar processor [col. 4, lines 1-6].

As per claim 12, Houston discloses that the processor is configured to assign a side effect to the power control instruction to limit run-time speculation thereof [col. 4, lines 32-62].

As per claim 13, Houston discloses that the power control information in the operand identifies a register within which power modes state information for the at least two hardware resources is stored, and wherein the processor is configured to selectively set the power modes of the at least two hardware resources by retrieving the power modes state information from the register identified by the power control information in the operand [col. 2, lines 49-61; col. 4, lines 46-62; col. 6, line 56-col. 7, line 7; col. 8, lines 24-46, 54-57; col. 9, lines 4-11].

As per claim 14, Houston discloses that the pluralities of hardware resources are disposed in the processor [fig. 2].

As per claim 15, Houston discloses that at least one hardware resource is disposed outside of the processor but on the same integrated circuit as the processor [fig. 2].

As per claim 16, Houston discloses that at least one hardware resource is disposed on a separate integrated circuit from the processor [fig. 2].

As per claim 17, Houston discloses an integrated circuit [fig. 2].

As per claim 18, Houston teaches the claimed system. Therefore, Houston teaches the claimed computer program storing in a medium to carry out the system.

As to claims 19-30, Claims 1-9 and 11-16 basically are the corresponding elements that are carried out the method of operating steps in claims 19-30. Accordingly, claims 19-30 are rejected for the same reason as set forth in claims 1-9 and 11-16.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Houston (Houston), U.S. patent no. 6,307,281 in view of what was well known in the art, as exemplified by Dinechin (Dinechin), U.S. publication no. 2003/0177482.

As per claim 10, Houston fails to disclose that a VLIW processor and an EPIC processor.

Examiner takes Official Notice that a VLIW processor and an EPIC processor are well known in the art, evidence of which may be found in

Dinechin: figure 1; paragraph 0005.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the type of processor to improve the functionality of the system.

9. Applicant's arguments filed on 2/2/07, which have been fully considered but they are not persuasive.

10. In the remarks, applicants argued in substance that in 1) **Houston** system, there is not a program code having power control instructions with an operand having power

control information disposed therein. 2) claim 18 is limited to a tangible signal bearing medium through which a hardware definition program is transmitted or carried on.

11. The examiner respectfully traverses. 1) Houston discloses a program code having power control instructions with an operand having power control information disposed therein [col. 3, lines 66-67; col. 4, lines 14-30; emphasis added "Houston discloses a instruction handler to execute instruction (such as power control instruction) for instructing a element 16 to enter a reduced power mode"; as such there is a program code having power control instructions for power control information. 2) claim 18 is not limit to intangible embodiments such as transmissions and communication links (digital/analog) which are non-statutory subject matter, such as the digital and analog communication links are not tangible media. As such, the claim is not limited to statutory subject matter and is therefore non-statutory. The signal bearing tangible medium as described in the specification and in the claim includes communication links; and a computer program on communication links is not a proper manufacture under 35 U.S.C. 101.

12. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun Cao whose telephone number is 571-272-3664. The examiner can normally be reached on Monday-Friday from 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 5, 2006

CHUN CAO
PRIMARY EXAMINER